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Applicant : St. Goar et al.
Serial No. : 10/635,776
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Attorney's Docket No.: 37531-501C01US 17315-002001
Supplemental Response to Office Action

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A system for modifying a valve in a patient's heart to reduce regurgitation, the valve having an annulus, the system comprising:
a catheter configured for advancement through the patient's vasculature into the heart from a vascular access point remote from the heart;
a stabilization structure attached to the catheter, wherein the stabilization structure couples to a cardiac structure to lessen relative motion between the catheter and the cardiac structure; and
a supporting structure releasably coupled to the catheter, the supporting structure being adapted for deployment at a tissue location directly on the annulus rather than on leaflets connected to the annulus, the supporting structure being movable between a delivery configuration suitable for advancement through the patient's vasculature and a deployed configuration suitable for modifying the annulus when deployed at the tissue location so as to reduce regurgitation in the valve.
- 2-7. (Cancelled)
8. (Original) The system of claim 1 further comprising a fastener for fastening the supporting structure to tissue.
9. (Cancelled)
10. (Original) The system of claim 8 wherein the fastener comprises a staple.
11. (Original) The system of claim 1 wherein the supporting structure is configured to circumferentially shorten the annulus.

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12. (Original) The system of claim 1 wherein the supporting structure is configured for deployment over the annulus.

13. (Cancelled)

14. (Original) The system of claim 1 wherein the catheter is configured to extend into the heart from a femoral venous location.

15. (Original) The system of claim 1 wherein the catheter is configured to extend across an inter-atrial septum of the heart.

16. (Original) The system of claim 1 wherein the valve is the mitral valve, the supporting structure being adapted for modifying the annulus of the mitral valve in the deployed configuration.

17. (Original) The system of claim 1 further comprising a guide catheter configured for advancement through the patient's vasculature into the heart from the vascular access point remote from the heart, the catheter and the supporting structure being positionable through the guide catheter.

18. (Original) The system of claim 1 wherein the supporting structure is configured to tighten the annulus.

19-42 (Cancelled)

43. (Previously presented) A method of modifying a valve in a patient's heart to reduce regurgitation, the valve having an annulus, the method comprising:

advancing a catheter through the patient's vasculature into the heart from a vascular access point remote from the heart, the catheter carrying a plurality of anchors;

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placing the anchors directly on the annulus rather than on leaflets connected to the annulus;

coupling a filament to the anchors; and

tightening the filament so as to modify the annulus to reduce regurgitation in the valve.

44. – 50. (Cancelled)

51. (Previously presented) The method of claim 43, wherein the anchors on or near the annulus comprise suture.

52. (Previously presented) The method of claim 43, wherein the anchors on or near the annulus comprise staples.

53. (Previously presented) The method of claim 43, wherein advancing the catheter comprises extending the catheter into the heart from a femoral venous location.

54. (Previously presented) The method of claim 43, wherein advancing the catheter comprises extending the catheter across an inter-atrial septum of the heart.

55. (Previously presented) The method of claim 43, wherein the valve is a mitral valve, and wherein tightening the filament modifies the annulus to reduce regurgitation in the mitral valve.

56. (Previously presented) The method of claim 43, further comprising positioning a guide catheter through the patient's vasculature into the heart from the vascular access point remote from the heart, and wherein advancing the catheter comprises advancing the catheter through the guide catheter.

57. (Previously presented) The method of claim 43, wherein tightening the filament comprises tightening the annulus.

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58. (Previously presented) The method of claim 43, wherein tightening the filament comprises shortening the annulus.

59. (Previously presented) The method of claim 43, wherein tightening the filament comprises circumferentially shortening the annulus.

60. (Previously presented) The method of claim 43, wherein tightening the filament comprises circumferentially tightening the filament by drawing at least some of the anchors together.

61. (Previously presented) The method of claim 43, wherein tightening the filament comprises circumferentially tightening the filament by plicating portions of the annulus.

62. (New) The system of claim 1, wherein the stabilization structure couples to a cardiac structure comprising at least one of an atrial wall, inter-atrial septum, valve annulus, valve leaflet, valve commissure, valve chordae, papillary muscle, and ventricle wall.

63. (New) The system of claim 1, wherein the stabilization structure is removably attached to the catheter.

64. (New) The system of claim 1, wherein the stabilization structure comprises at least one wire that engages the cardiac structure.

65. (New) The system of claim 64, wherein the cardiac structure comprises the mitral valve.